

## **GD-065-PHS-EMS: Drug Profile for Epinephrine Auto-Injector**

*This is the Arizona Department of Health Services' recommendation for the use of this drug in the prehospital setting.*

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**GENERIC NAME:**

**EPINEPHRINE AUTO-INJECTOR**

**CLASS:** sympathomimetic

### Mechanism of Action:

**Vasoconstrictor:** Acts on alpha adrenergic receptors to counter vasodilation and increased vascular permeability that can lead to loss of intravascular fluid volume and hypotension during anaphylactic reaction.

**Bronchodilator:** Acts on beta receptors on bronchial smooth muscle to cause bronchial smooth muscle relaxation, which alleviates wheezing and dyspnea. Alleviates pruritis, urticaria, and angioedema and may be effective in relieving gastrointestinal and genitourinary symptoms associated with anaphylaxis.

### Indications and Field Use:

Indicated in the emergency treatment of anaphylaxis.

### Contraindications:

**There are no absolute contraindications in a life-threatening situation.**

### Adverse Reactions:

Side effects may include:

- Ventricular arrhythmia
- Precipitation of angina or myocardial infarction
- Tachycardia
- Anxiety and nervousness
- Hypertension
- Headache
- Pallor
- Sweating
- Dizziness
- Weakness
- Tremor
- Nausea and vomiting

## **NOTES ON ADMINISTRATION**

### Incompatibilities/Drug Interactions:

Potentiates other sympathomimetics.

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### Adult Dosage:

Intramuscular: 0.3 mg (one adult auto-injector)

### Pediatric Dosage:

Intramuscular: 0.15 mg (one pediatric auto-injector), for patients  $\leq 30$  kg (66 lbs) body weight

Intramuscular: 0.3 mg (one adult auto-injector) for patients  $>30$  kg (66 lbs) body weight

### Route of Administration:

**IM, only into the anterolateral aspect of the thigh (through clothing if necessary)**

### Onset of Action:

Seconds

### Peak Effects:

Minutes

### Duration of Action:

Several minutes

### Dosage Forms/Packaging:

Adult auto-injector, 1:1000 solution, 0.3mL (0.3 mg)

Pediatric auto-injector, 1:2000 solution, 0.3mL (0.15 mg)

### Recommended Arizona Drug Box Minimum Supply:

Minimum of 2 adult auto-injectors

Minimum of 2 pediatric auto-injectors

### Special Notes:

Overdosage or inadvertent intravascular injection may cause cerebral hemorrhage resulting from a sharp rise in blood pressure. Fatalities may also result from pulmonary edema because of peripheral vascular constriction together with cardiac stimulation.